

Claims

1. Sedimentation basin for a two-phase suspension, particularly for sewage sludge, in which the heavy phase settles downwards by gravitational separation and a separation level (6) is formed between the heavy phase and the light phase, comprising a centrally disposed inlet construction with at least one suspension supply line (8) and at least one inlet (3) which is adjustable in height and opens into the sedimentation basin (1, 2) in the region of the separation level (6), characterized in that the inlet (3) has an inlet cross-section which is flowed through substantially horizontally and of which the relative height h_0 can be adapted continuously to the respective height h_s of the separation level (6).
2. Sedimentation basin as claimed in Claim 1, characterized by an arrangement for adjusting the height h_i of the inlet cross-section as a function of the volume flow and/or the density of the introduced suspension.
3. Sedimentation basin as claimed in Claim 2, characterized in that
 - the suspension supply line (8) comprises a substantially vertical inlet pipe (9) which passes through the base of the sedimentation basin (1);
 - the inlet pipe (9) is constructed so as to be adjustable in height or telescopic;
 - the upper end of the inlet pipe (9) merges into a substantially horizontal inlet surface (10);
 - a deflector plate (11) is disposed above the inlet surface (10), parallel thereto and at an adjustable distance therefrom;
 - the distance between the inlet surface (10) and the deflector (11) defines the height h_i of the inlet cross-section.

4. Sedimentation basin as claimed in Claim 2, characterized in that
 - the suspension supply line (8) opens into an inlet pipe (15);
 - a concentric annular plate (16) is disposed so as to be adjustable in height on the outer wall of the inlet pipe (15);
 - above the annular plate (16) there is disposed a pipe ring (17) which surrounds the inlet pipe (15) concentrically at least in the region of its upper edge;
 - the pipe ring (17) is adjustable in height or of telescopic construction;
 - the distance between the lower edge of the pipe ring (17) and the upper face of the annular plate (16) defines the height h_i of the inlet cross-section.
5. Sedimentation basin as claimed in Claim 2, characterized in that
 - the suspension supply line (8) opens into an inlet pipe (15);
 - the inlet pipe (15) is adjustable in height or of telescopic construction;
 - a substantially horizontal deflector plate (11) is disposed so as to be adjustable in height above the free end of the inlet pipe (15);
 - the distance between the upper edge of the inlet pipe (15) and the underside of the deflector plate (11) defines the variable height h_i of the inlet cross-section.
6. Sedimentation basin as claimed in Claim 1, characterized in that
 - the suspension supply line is connected to at least one inlet conduit (20) which is adjustable in height, the wall of which has outlet openings;

- the inlet pipe (20) extends concentrically around the centre of the sedimentation basin (1).

7. Sedimentation basin for a two-phase suspension, particularly for sewage sludge, in which the heavy phase settles downwards by gravitational separation and a separation level (6) is formed between the heavy phase and the light phase, comprising a suspension supply line (8) and at least one inlet (3) which is adjustable in height and opens into the sedimentation basin (1, 2) in the region of the separation level (6), characterized in that

- the inlet (3) is disposed in the region of the edge of the sedimentation basin (1, 2);
- the relative height h_0 of the inlet (3) can be adapted to the respective height h_s of the separation level (6).

8. Sedimentation basin as claimed in Claim 7, characterized in that

- the suspension supply line (8) comprises an intake basin (13) which extends along at least a section of the edge of the sedimentation basin (1, 2);
- a partition (14) is disposed between the intake basin (13) and the sedimentation basin (1, 2).

9. Sedimentation basin as claimed in Claim 8, characterized in that

- the partition (14) is adjustable in height or is of telescopic construction;
- the partition (14) merges at its upper edge into a horizontal inlet surface (10);
- a deflector plate (11) is disposed above the inlet surface (10), parallel thereto and at an adjustable distance therefrom;

- the distance between the inlet surface (10) and the underside of the deflector plate (11) defines the height h_i of the inlet cross-section.

10. Sedimentation basin as claimed in Claim 8, characterized in that

- a substantially horizontal inlet plate (18) is disposed so as to be adjustable in height on the partition (14);
- a boundary wall (19) is provided above the inlet plate (18), spaced from and substantially parallel to the partition (14);
- the boundary wall (19) is adjustable in height or of telescopic construction;
- the distance between the lower edge of the boundary wall (19) and the upper face of the inlet plate (18) defines the height h_i of the inlet cross-section.

11. Sedimentation basin as claimed in Claim 8, characterized in that

- the partition (14) has a plurality of slots (21) disposed one above the other;
- the slots (21) can be completely or partially opened and closed individually or in combination by means of closure elements.

12. Sedimentation basin as claimed in Claim 8, characterized in that

- the height of the partition (14) is adjustable;
- towards the top the intake basin (13) is covered by a horizontal cover plate (22) which is adjustable in height;

- the distance between the upper edge of the partition (14) and the underside of the cover plate (22) defines the variable height h_i of the inlet cross-section.

13. Sedimentation basin as claimed in Claim 7, characterized by an inlet conduit (20) which is adjustable in height and of which the wall has outlet openings.

14. Sedimentation basin as claimed in Claim 7, characterized by at least two inlet conduits (23a, 23b) disposed one above the other, each with at least one inlet slot (24).

15. Sedimentation basin as claimed in any one of Claims 1 to 14, characterized in that at least one flow deflector (7) is disposed above the inlet.

16. Sedimentation basin as claimed in Claim 15, characterized in that the flow deflector (7) extends at an acute angle of inclination upwards in the direction of the separation level (6).

17. Sedimentation basin as claimed in Claim 16, characterized in that the angle of inclination of the flow deflector (7) is adjustable.

18. Sedimentation basin as claimed in Claim 17, characterized by an arrangement for controlling the angle of inclination of the flow deflector (7) as a function of the relative height h_0 of the inlet (3).